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| 09/670,705      | 09/27/2000  | Gerhard Reichert     |                     | 6878             |

7590 08/31/2007  
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| EXAMINER |
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GOFF II, JOHN L

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| ART UNIT | PAPER NUMBER |
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1733

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08/31/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

09/670,705

**Applicant(s)**

REICHERT, GERHARD

**Examiner**

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 32,33 and 36-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32,33 and 36-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/13/07 has been entered. Applicant's amendment has overcome the previous 35 U.S.C. 112 first paragraph rejection.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

3. Claims 32, 33, and 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glover et al. (U.S. Patent 5,007,217) in view of Battersby (U.S. Patent 3,759,771) and Town (U.S. Patent 6,002,521).

Glover et al. disclose a method of fabricating an insulating glazing unit including providing a first glass sheet having a first perimeter (41 of Figure 2A), providing a second glass sheet having a second perimeter (41 of Figure 2A), disposing between the first and second glass sheets a foam body spacer (40 of Figure 2A) carrying a desiccant, a moisture barrier layer (46 of Figure 2A), and two insets that define two notches such that an outward channel and desiccant accessible insulating chamber are formed and including an adhesive (43 of Figure 2A) to directly

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bond the first and second glass sheets to the opposing sides of the spacer wherein the moisture barrier layer and notches face the channel and each notch is adjacent a glass sheet, applying a primary sealant (44 of Figure 2A) in the channel only at the notches of for example polyisobutylene (a moisture impermeable sealant as defined by applicants at page 10, lines 20-22 and page 11, lines 1-4 of the specification which functions to hermetically seal the insulating chamber), and applying a secondary thermosetting sealant (47 of Figure 2A) in the channel of for example silicone (a structural sealant as defined by applicants at page 11, lines 7-10) (Figures 2A and 2B and Column 6, lines 61-66 and Column 7, lines 5-6 and 25-26 and Column 8, lines 50-68 and Column 9, lines 1-12). Glover et al. appear to teach the primary sealant is pre-applied to the notches of the spacer prior to disposing the spacer between the glass sheets (Column 8, lines 61-68 and Column 9, lines 1-5). Glover et al. further teach, at least in other embodiments, the primary sealant is applied to the spacer after disposing the spacer between the glass sheets and bonding the spacer to the glass sheets (Column 9, lines 6-12). However, there is no specific recitation of applying the primary sealant to the notches of the spacer after the spacer is disposed between and bonded to the glass sheets. It is well taken in the art to apply a primary sealant to the notches of a spacer after the spacer is disposed between the glass sheets as shown by Battersby and Town including after the spacer is bonded to the glass sheets as shown by Town wherein Battersby teach applying the primary sealant to both the spacer and glass sheets simultaneously at the same temperature and pressure, i.e. applying the primary sealant after disposing the spacer between the glass sheets, heats both the spacer and glass sheets and forms a stronger bond between them than would be achieved with pre-applied sealants. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the

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primary sealant in Glover et al. to the notches of the spacer after the spacer is disposed between and bonded to the glass sheets, i.e. applying the primary sealant to contact the spacer and glass sheets at the same temperature and pressure, as was well taken in the art and shown by Battersby and Town wherein applying the primary sealant to the spacer after disposing the spacer between and bonded to the glass sheets is advantageous because applying the primary sealant to both the spacer and glass sheets simultaneously heats both the spacer and glass sheets and forms a stronger bond between them than would be achieved with a pre-applied primary sealant.

Battersby discloses a method of making an insulating glazing unit (double glazing unit) (Column 1, lines 54-63). Battersby teaches providing a pair of glazing sheets separated by a spacer wherein the spacer is spaced inwardly from the perimeter of the sheets forming an outwardly facing channel and an inward insulating channel (Figures 1 and 5-7 and Column 2, lines 24-29 and 57-60). Battersby teaches sealing the insulating chamber by applying a primary and secondary sealant into the provided outwardly facing channel (Column 2, lines 30-34 and 63-72 and Column 3, lines 1-61). Alternatively, Battersby teaches the primary sealant may be pre-applied to the spacer prior to disposing the spacer between the glazing sheets (Column 4, lines 16-23). However, Battersby teaches applying the primary sealant to both the spacer and glazing sheets simultaneously at the same temperature and pressure, i.e. applying the primary sealant after disposing the spacer between the glazing sheets, heats the spacer and glass sheets and forms a stronger bond between them than would be achieved with pre-applied sealants (Column 4, lines 43-47). Battersby further teaches the sealants are applied through an applicator with at least one heads/nozzles. Battersby teaches that the first and second sealants may be different (Column 4, lines 16-23), and the sealants comprise a wide variety of materials including

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polyisobutylene, polyurethane, and thermosets (Column 3, lines 62-63 and Column 4, lines 7 and 12-13). Battersby teaches that the sealants prevent the entry of dust and/or moisture into the insulating chamber (Column 2, lines 30-34). Battersby further teaches that the spacer may be formed of metal, plastics, or wood and may include a desiccant (Column 2, lines 40-44), and the spacer may have notched corners between the glazing sheets and the spacer with the first sealant applied in the notched corners (Figures 2-6 and Column 2, lines 45-56).

Town discloses a method of fabricating an insulating glazing unit including providing a first glass sheet having a first perimeter (2 of Figure 11), providing a second glass sheet having a second perimeter (4 of Figure 11), disposing between the first and second glass sheets a spacer (42 of Figure 11) including a desiccant and two insets that define two notches such that an outward channel and insulating chamber are formed including an adhesive (24 of Figure 11) to directly bond the first and second glass sheets to the opposing sides of the spacer wherein the notches face the channel and each notch is adjacent a glass sheet, after the spacer is bonded to the first and second glass sheets applying a primary sealant (26 of Figure 11) entirely across the channel of for example polyisobutylene, and subsequently applying a secondary thermosetting sealant (47 of Figure 2A) in the channel of for example silicone (a structural sealant as defined by applicants at page 11, lines 7-10) (Figure 11 and Column 4, lines 64-67 and Column 10, lines 44-55 and Column 11, lines 10-67 and Column 12, lines 1-50).

Regarding claim 36, Battersby teaches the primary and secondary sealants are applied at a sealing station from an applicator having at least one head/nozzle (Column 2, lines 63-72 and Column 3, lines 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the primary and secondary sealants taught by Glover et al. as

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modified by Battersby and Town using multiple sealant stations of the applicator type suggested by Battersby having only one sealant head/nozzle in order to apply both sealants.

Regarding claims 37 and 38, Battersby teaches the applicator may comprise two heads/nozzles wherein the second applicator head trails the first, thus the second sealant covers the first (Figures 2-4 and Column 2, lines 63-71 and Column 3, lines 1-2 and 11-17 and 40-45). It is noted that in the method and apparatus of Battersby retracting the first applicator head/nozzle does not appear necessary. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to retract the first head/nozzle if the head/nozzle would disturb the application of the second sealant.

4. Claims 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glover et al. in view of Battersby, Town, and optionally any one of Reichert et al. (U.S. Patent 4,994,309), Woodard et al. (U.S. Patent 5,308,662), or Lizardo et al. (U.S. Patent 4,335,166).

Glover et al., Battersby, and Town are all described above in full detail. The combination of Glover et al., Battersby, and Town is the same as that set forth in paragraph 3 regarding claim 32 and is not repeated here. Glover et al. are silent as to each of the two notches of the spacer being tapered including a curved wall such that the notches are wider adjacent the channel and more narrow closer to the chamber, it being noted Glover et al. is not limited to the notches having any particular configuration. It is well taken in the art of forming a spacer with two notches that the notches are tapered including a curved wall such that the notches are wider adjacent the channel and more narrow closer to the chamber as shown by any one of Town, Reichert et al., Woodard et al., or Lizardo et al. (48 of Figure 11 and Column 12, lines 12-13 of Town and 30A of Figure 3 of Reichert et al. and 24 of Figure 1 of Woodard et al. and 16 of

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Figure 5 of Lizardo et al.). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the two notches of the spacer taught by Glover et al. as modified by Battersby and Town to be tapered including a curved wall such that the notches are wider adjacent the channel and more narrow closer to the chamber as shown by any one of Town, Reichert et al., Woodard et al., or Lizardo et al. such that the primary sealant easily fills the notches.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 32, 33, and 36-42 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues, "Glover does not disclose the claimed method because Glover only uses notches to hold the pre-applied sealant. When a spacer is sandwiched between the glass sheets, Glover teaches that the sealant is to be applied at the junction of the spacer and the glass. This arrangement is described at Col. 9, line 8 and shown in FIG. 2B wherein the sealant is applied on top of the spacer body. Glover thus teaches away from the claimed invention wherein the sealant is applied only to the notches of the spacer body. The Applicant thus submits one of ordinary skill in the art at the time of the invention would not have been led to make the combination presented in the action because Glover teaches away from the use of notches when applying sealant to a channel disposed outwardly of the spacer.".

Glover is not considered to teach away from the use of notches when applying sealant to a channel disposed outwardly of the spacer. There is no specific disclosure in Glover that teaches away from doing so. For example, there is no teaching in Glover that when using a



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spacer including notches the sealant must be pre-applied. Rather, Glover recognizes as is considered by the examiner to be well taken in the art that a spacer may include notches or not and sealant may be pre-applied or not. This position is supported by both Battersby and Town wherein Battersby specifically discloses a spacer including notches having sealant applied thereto wherein the sealant is pre-applied or applied after the spacer is installed wherein applying the sealant after the spacer is installed has the advantage of simultaneously heating the spacer and glass sheets to form a stronger bond between them than would be achieved with a pre-applied sealant. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the sealant to the spacer including notches in Glover after the spacer is installed and bonded between the glass panes as shown by Battersby and Town to form a stronger bond than that achieved with a pre-applied sealant.

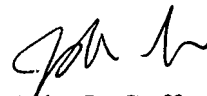
### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571) 272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John L. Goff  
Primary Examiner  
Art Unit 1733